

#### **MISSION**

The mission of the Department of Natural Resources and Environmental Control is to ensure the wise management, conservation, and enhancement of the state's natural resources, protect public health and the environment, provide quality outdoor recreation, improve the quality of life and educate the public on historic, cultural and natural resource use, requirements and issues.

#### **KEY OBJECTIVES**

#### • Promote Health and Safety

By maintaining and improving the quality of air, land and water resources, by managing populations of mosquitoes and other pests, and by cleaning up spills involving hazardous chemicals, the department significantly enhances the health and well being of Delaware's people, wildlife, and plants. The department recognizes that the health of Delaware's economy is very much dependent on the health of its natural resources. Without a clean and adequate supply of air, land and water resources, many of Delaware's existing businesses cannot thrive nor can certain new businesses be accommodated. The department promotes public

health and safety and helps to ensure a healthy environment through education, outreach, planning and regulatory programs.

#### • Conserve Plant and Animal Resources

This goal is to conserve and enhance plant and animal communities, through protection and management of species populations and their habitats. This effort involves maintenance of biodiversity, harvest allocation of species populations, protection of ecological functions and processes and performing educational outreach.

#### • Promote and Provide Recreational Opportunities

Recreational opportunities that allow Delawareans to enjoy natural resources and open spaces, contribute to and enhance the mental and physical health and the quality of life. The department strives to provide recreational opportunities while balancing resource protection with resource use. A diverse system of state parks, wildlife areas and greenways that protects natural resources and provides recreational and environmental educational opportunities is crucial.

 Broaden the Commitment to Environmental Protection and Resource Conservation

Economic, environmental and social problems cannot be The department works in addressed in isolation. partnership with others to develop strategies that integrate economic development, environmental quality, and social policy making with broad public involvement. This involves a systematic approach that reflects shared goals and takes into account the linkages of the environment, both internally (cross media) and externally with society. The department strives to create a widely held ethic of stewardship that strongly encourages individuals, institutions, corporations and local governments to take full responsibility for the economic, environmental, and social consequences of their actions. Creating this ethic will depend in part on DNREC's ability to enhance public awareness of personal environmental issues and people's responsibility in affecting environmental change through public information and educational efforts targeting adults and student populations.

#### **PRIORITIES**

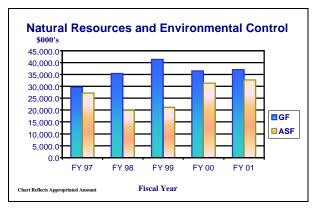
Protecting Delaware's Coastal Zone – The wetlands, beaches, rivers, fields and forests that comprise Delaware's Coastal Zone provide habitat of international significance for migratory waterfowl and shorebirds, fish and shellfish. The Coastal Zone provides recreational opportunities for anglers, hunters, birdwatchers, beachgoers and is of vital importance to the state's economy. DNREC is implementing regulations designed to enhance the Coastal Zone. The regulations allow industry located in the zone the flexibility to expand and change processes in order to stay competitive while assuring environmental improvements through mitigation to more than offset any negative environmental impacts which might result from industry activity. At the heart of this process is a set of environmental indicators identified last year by a technical advisory committee with broad-based representation. The use of these indicators will allow DNREC to assess the environmental health of the Coastal Zone. In order to develop these indicators and implement their use, DNREC will be building an integrated information management system capable of conducting landscape scale analysis and evaluating the effectiveness of the indicators. This information system will be integrated as part of DNREC's larger environmental information system.

Enhancing Water Quality – Restoring our streams, rivers and bays to standards that support healthy populations of diverse aquatic life and are safe for swimming and drinking is among Delaware's most difficult environmental challenges. DNREC is implementing a 10-year program to set limits on the amount of pollution that waterways can sustain and still meet water quality standards. The process of setting Total Maximum Daily Loads (TMDLs) will set the targets for reducing nutrients, bacteria and other pollutants entering our streams. Achieving these reductions will first require development of watershed strategies restoration action followed implementation. Successful management of nutrients and stormwater are key to meeting TMDLs. To that end, DNREC will be working closely with the Nutrient Management Commission and the Department of Agriculture to formulate a systematic and economically viable Nutrient Management Program that maintains profitability and improves water quality. Likewise, DNREC will be implementing phase two of the National Pollution Discharge Elimination System Stormwater Management Program to reduce environmental impacts from runoff of developed areas.

Information Management and Data Integration – Improved access to information and the efficiencies that come from data integration are critical to DNREC's operations and stakeholders. A major upgrade to the computer network is underway as well as a project to link environmental monitoring information in databases maintained by the department. These improvements will enhance the ability to analyze, process and supply data. Planned improvements include enhancements to the Laboratory Information Management System and integration of the Coastal Zone Environmental Indicators information system.

Land Management and Landowner Assistance -Managing public and private lands to improve habitat while achieving water quality benefits is an important objective for DNREC. For example, management of parklands could be modified to enhance their value as fish and wildlife habitat. Similarly, providing technical assistance to private landowners, who hold 90 percent of the land in Delaware, through advice on planting and nest box structures could yield major habitat improvements for various wildlife species. Providing management recommendations to private landowners for agricultural, forested and wetland habitats can also quality improvements through vield water establishment of buffer areas along streams, rivers and bays. Technical assistance to landowners has also been

an important component in controlling damage from wildlife such as deer and snow geese.



#### **BUDGET**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 GOV. REC.
GF	41,326.6	36,494.5	36,974.9
ASF	25,102.8	31,355.8	32,631.3
TOTAL	66,429.4	67,850.3	69,606.2

#### **POSITIONS**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 Gov. Rec.
GF	368.2	373.2	373.7
ASF	267.4	275.4	273.9
NSF	137.4	138.4	138.4
TOTAL	773.0	787.0	786.0

#### **FY 2001 BUDGET HIGHLIGHTS**

#### **OPERATING BUDGET:**

- Recommend enhancement of \$250.6 for the third year of funding for the Total Maximum Daily Load program. Funds are appropriated for water quality assessment, stormwater modeling and biological monitoring.
- Recommend enhancement of \$100.0 for the second year of funding of Coastal Zone Environmental Indicators project.
- Recommend one-time funding in the Budget Office's Development Fund for the fourth year of funding for data integration.
- Recommend \$60.0 ASF for the Wildlife Damage Control program, which provides assistance to landowners that have sustained property or crop damage from wildlife.

♦ Recommend enhancement of \$18.9 and 0.5 FTE to partially convert existing Paralegal position from ASF to handle Freedom of Information Act requests.

#### **CAPITAL BUDGET:**

- ♦ Recommend \$2,345.0 for the conservation cost sharing program, which provides incentives to landowners or users to support the design and installation of Best Management Practices. This will protect the state's natural resources and water supplies by preventing urban and agricultural nonpoint source pollutants from reaching surface and subsurface waters, as well as protect important farmland soils from excessive erosion and provide wildlife habitat.
- ◆ Recommend \$1,250.0 to address a backlog of deferred park rehabilitation projects.
- Recommend \$600.0 to continue the tax/public ditch program.
- Recommend \$1,000.0 to continue the beach preservation program.
- Recommend \$1,000.0 to address critical restorations and repairs at Fort Delaware State Park and for those parks located within the City of Wilmington that are managed by the Division of Parks and Recreation.

## OFFICE OF THE SECRETARY 40-01-00

#### **MISSION**

To oversee the development and implementation of state environmental, natural resource and recreational policies and programs; promote employee productivity through technology and training; manage the department's financial and human resources; promote quality and continuous improvement of the programs; assist other agencies in the promotion of environmentally sound, economic development; and coordinate policy among the department's divisions.

#### **KEY OBJECTIVES**

- Protect and enhance the natural attributes of Delaware's coastal zone in order to maintain and enhance fish and wildlife populations and provide recreational opportunities.
- By 2002 DNREC will develop an integrated environmental information system containing facility, permitting, ambient monitoring, natural resource and enforcement data. Public information in this system will be accessible through the Internet.
- Complete the first full rotation of the management cycle for all basins within the State by the year 2004.
- Implement a means to effectively collect and manage the information that its partners require in order to manage for environmental results by 2005.
- Increase the public's understanding of the agency and its activities by 25 percent (over results from 1997 survey) by 2008.
- By 2002, obtain commitments to incorporating specific pollution prevention and environmental strategies from industry and businesses, government, citizens, environmental organizations and the communications media.
- Coordinate land use activities with other agencies and county and municipal governments to preserve open space, and minimize impacts to habitat, air and water quality.
- Establish baseline data to increase communications efforts by targeting disadvantaged socio-economic

populations on environmental issues, which may affect those populations.

#### BACKGROUND AND ACCOMPLISHMENTS

#### Information Management and Data Integration --

This year the department began work on a three-year project to build an integrated environmental information system that will include facility, permitting, natural resource, enforcement and ambient environmental data. The system will improve the ability to take the comprehensive approach to managing the environment that is required to support department initiatives such as Coastal Zone Indicators, TMDL's and Whole Basin. It will also allow DNREC to more effectively use the information collected to make both speedier and better informed decisions. Finally the system will make it possible to make the public data collected accessible over the Internet.

The Whole Basin Management continues as a priority initiative for the department. Since the inception of Whole Basin Management in 1995, the department has created and developed multi-disciplinary teams focusing their collective expertise on specific geographic areas in Delaware. Whole Basin Management team members have assisted Tributary Action Teams with the development of Pollution Control Strategies to achieve TMDLs established for the Rehoboth and Indian River bays. A process is being developed that will engage the basin teams with assisting the public in developing TMDL Pollution Control Strategies along with the Clean Water Action Plan Watershed Restoration Action Strategies for the entire state. Other Whole Basin initiatives currently being implemented or targeted for completion under the current administration (January, 2001) include: Watershed Education curriculum being taught at the seventh grade level through a cooperative effort between DNREC and the Department of Education; contaminant sources site-listing database for the entire state and GIS data layers; conservation management plans developed for state and federal lands; watershed signs along major roadways; wetlands status and trends report; watershed education poster and brochure; Chesapeake Basin Assessment Report and public outreach document; Inland Bays Assessment Report and public outreach document; land use strategy and recommendations to address sprawl; mapping of old growth forests in the Piedmont basin; PCB Assessment report and focus environment study for the tidal Brandywine and Christina; riparian corridor/greenway stream inventory.

The Business and Permitting Services Office (BPS) provides non-regulatory assistance functions for businesses and permittees within Delaware. The office supports three basic program areas: pollution prevention, permitting assistance and the Clean Air Act Ombudsman. The office also coordinates the department's community involvement efforts. Through the Clean Air Act Ombudsman, a closer working relationship has been developed between the regulated community and DNREC by increasing the quality and quantity of outreach and compliance assistance programs. Staff has completed the first year of a fiveyear department-wide Pollution Prevention Strategy to further integrate pollution prevention into all DNREC programs, industry, commercial businesses, government and general public.

The Human Resources Office has prepared a department-wide Human Resources Workforce Plan. Within this plan is a department-wide Recruitment Plan which will facilitate effective and efficient recruitment to meet the workforce demands of the department over a three-year period. As a complement to the Workforce Plan, the Human Resources Office conducted a needs assessment to update the departmental Training Plan. The needs assessment completed last year indicated additional training in computer technology and particular software packages was an overwhelming priority, as was training in communications, project and fiscal management and certification programs for labor and trades groups.

The Office of Information and Education is responsible for coordinating many of DNREC's outreach and education efforts. Among the major initiatives undertaken last year was the development of a watershed education unit, produced in conjunction with the Department of Education. The seventh grade unit is being tested statewide this year and is designed to assist students in meeting new science performance standards. The department also initiated a weekly newsletter for citizens, elected officials, business and environmental leaders and the media. "DNREC News" provides information on DNREC activities and issues and tracks the status of regulations under development. "Outdoor Delaware" magazine continues to expand its subscription base with nearly 6000 subscribers currently. Examples of DNREC's continued success with volunteers include the Christina River Cleanup and Coastal Cleanup in which more than 2500 people participated and collected more than 20,000 pounds of debris.

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	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 GOV. REC.
GF	3,470.0	4,597.4	4,673.8
ASF	999.8	1,257.6	1,317.6
TOTAL	4,469.8	5,855.0	5,991.4

#### **POSITIONS**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 Gov. Rec.
GF	31.7	31.7	31.7
ASF	19.3	19.3	19.3
NSF	2.0	2.0	1.0
TOTAL	53.0	53.0	52.0

## OFFICE OF THE SECRETARY 40-01-01

- Assist the divisions to meet their human resource, financial, legislative, policy and other needs promptly and accurately.
- Provide for rational, accurate and responsive budgeting and financial management processes.
- Administer the Coastal Zone statute and provide timely, efficient services to industries seeking status decisions.
- Coordinate database and Geographical Information Systems (GIS) operations for the department.
- Guide IRM planning and decision making through the policy level Executive Steering Committee for IRM and Strategic Plan for Information Resource Management.
- Assess the department's workforce diversity and target/develop programs to address needs.
- Ensure employees are educated regarding benefits and their rights.
- Coordinate the preparation of site-specific environmental assessments and recommendations to communities, jurisdictions, and agencies in a form that is usable for land use decision makers for comprehensive plans, ordinance revisions, zoning changes, site reviews and policy development.
- Develop department-wide communications strategies using information gathered in surveys and focus groups. This effort includes evaluation of current department-wide outreach efforts and identification of opportunities to integrate key department issues/themes and messages into those efforts.

- Develop and distribute communications products that heighten people's awareness of environmental issues in their communities and suggest opportunities for them to reduce environmental impacts. These products include a state of the environment report, citizen guide to watersheds and TMDLs, natural heritage guides on species and habitats and various fact sheets and brochures.
- Sponsor and participate in special events designed to raise people's awareness such as the State Fair, Coast Day, Earth Day, the Coastal Cleanup and Christina River Cleanup.
- Sponsor training for educators on environmental issues and supplemental environmental education materials and curriculum including the new Watershed Education unit.

## ENSURE EFFECTIVE PUBLIC PARTICIPATION IN AGENCY DECISION-MAKING PROCESSES.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
# projects reported on for local land use decision			
makers	136	240	165
CZA permits	11	9	10
CZA status decisions	3	5	4

## BUSINESS AND PERMITTING SERVICES 40-01-02

#### **ACTIVITIES**

- Provide pollution prevention assistance to industry, local governments and citizens.
- Work with the regulatory programs on incorporating pollution prevention into permitting processes and compliance activities.
- Facilitate quarterly Pollution Prevention Industry Roundtable meetings.
- Ensure effective public participation in agency permitting processes.
- Act as first point of contact for small businesses on Clean Air Act issues and assist them with permitting and compliance issues.
- Reach out to small businesses when upcoming regulations have a small business impact and educate them on the regulations and how to costeffectively comply.

- Provide general assistance and information on DNREC permitting programs and provide a central point of contact and coordination service for customer issues and problems.
- Operate and market the Development Advisory Service (DAS).
- Serve as the Department Registrar and point of contact on Climate Change issues.

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.	
Assist potential permittees				
through Development				
Advisory Service	8	9	12	

## FISH AND WILDLIFE 40-05-00

#### **MISSION**

To conserve and manage the fish and wildlife resources of the state; to provide safe and enjoyable fishing, hunting, and boating opportunities to the citizens of Delaware and its visitors; to manage and make available for public use and enjoyment the lands with which it has been entrusted; and to improve the public's understanding and interest in the state's fish and wildlife resources through information and outreach programs.

#### **KEY OBJECTIVES**

#### **Maintaining Tidal Fisheries Management**

- Implement a sustained source of revenue to allow tidal fisheries management to meet public demand for better decisions to conserve marine fishes and their habitats.
- Increase investigations of events in the aquatic environments that result in the loss of natural habitat, fish population changes and fish kills.
- Implement and update interstate fishery management plans for 21 species of marine fish.
- Expand marine fish monitoring and stock assessments to be in compliance with interstate fishery management plans.
- Develop artificial habitat (reefs) to colonize benthic organisms in support of marine fisheries on 11 sites in the Delaware Bay and Atlantic Ocean.
- Re-establish a viable commercial oyster fishery with direct harvest from natural oyster beds.
- Implement procedures to document essential fish habitats.
- Improve public participation in marine fisheries management and improve game fish populations in tidal fresh water.

## Protecting, Restoring and Enhancing Fisheries and Wildlife Habitat,

• Implement the existing state-level responsibilities for achieving the goals and objectives of the North American Waterfowl Management Plan.

- Increase the number of acres actively managed for wildlife or fisheries habitats on public and/or private lands.
- Achieve the impoundment restoration goals identified in the Northern Delaware Wetlands Rehabilitation Plan (seven site projects).
- Develop one comprehensive Wildlife Area Management Plan each year that provides a basis for habitat and species management, hunting, observation opportunities and that improves the quality of the environment.

#### Fostering Partnerships with Private Landowners.

- Control aquatic weeds and algae in public ponds to maintain water quality, aesthetics and boating access.
- Reduce and control nuisance animal and plant species on public and private lands and waters/wetlands in order to improve wildlife and fisheries habitats.

#### **Expanding and Enhancing the Non-Game Program.**

• Continue protection, recovery and management plans (federal or state) for endangered, threatened, or species of special concern on an annual basis.

#### **BACKGROUND AND ACCOMPLISHMENTS**

Division programs are developed and administered to serve the interests of all of the people of Delaware. The division works with all segments of the constituencies to identify their needs and interests in fish and wildlife resources. The division advocates the human use of fish and wildlife including observation, study, hunting, fishing and trapping, in a humane manner without threatening the continued existence of species.

The division has developed five key operational priorities that support the department's Strategic Plan.

- 1. **Applied Habitat Research, Management and Restoration:** promotes the conservation of biological diversity by avoiding the unnecessary threat to or extinction of living species.
- Deer management continues to be a high priority for the division. Approximately 17,000 hunters harvested more than 10,000 deer in 1998. The economic activity associated with deer hunting generated a minimum of \$13.3 million dollars in Delaware. The division worked with the Advisory Council on Game and Fish to form a task force to join 21 stakeholder groups in order to develop an

- outline for a formal deer plan for Delaware. In a recent survey of landowners receiving assistance from the division, 89 percent indicated that they were satisfied with the services.
- The harvest of horseshoe crabs was reduced 39 percent in 1998. By closing state and federal lands to harvesting in May and June, migratory shorebirds were able to feed on horseshoe crab eggs with relatively few interruptions and regain their fat content to complete their migration to their Arctic nesting grounds.
- The division worked with the Division of Soil and Water Conservation to establish freshwater wetland habitat on the Blackiston Wildlife Area. The project was used to compensate for wetlands lost due to drainage project construction. The habitat created will benefit a wide variety of wetland plants and animals as well as providing increased public recreation opportunities for wildlife viewing and hunting.
- 2. **Species Research, Monitoring and Management:** provides the basis for management of fish and wildlife stocks and populations through species specific research and monitoring programs.
- Delaware is in compliance with 21 fisheries management plans required under the Atlantic Coast Fisheries Cooperative Management Act.
- The weakfish and summer flounder fisheries are recovering according to schedule and Striped Bass in the Delaware Estuary has been declared recovered.
- 3. **Enforcement:** offers public safety services in the areas of boating, hunting and fishing, as well as protecting the state's wildlife, finfish, shellfish, nongame and endangered species.
- The Enforcement Section stabilized the number of Boating Safety Education Certifications.
- 4. **Education and Training:** provides outreach opportunities that improve the awareness, appreciation and conservation of Delaware's natural resources by the users of this heritage.
- The Division's Aquatic Resource Education Program, continues to expand programs for young people in an effort to increase awareness about the importance of Delaware's aquatic habitats. The number of student and teacher contacts exceeded the projected 10 percent increase in Fiscal Year 1999.

- 5. Infrastructure Maintenance and Development: provides public hunting areas and boating/fishing access sites that are environmentally sensitive, modern, safe, clean and convenient so that the state's natural resources are available to all.
- The division completed the renovation of bulkheads, water control structures and dikes at the Assawoman Wildlife Area to repair damage caused by storms in 1997 and to improve the area's wetlands.
- The division completed a new boating access facility on the Delaware City Branch Canal, Fort DuPont State Park, Delaware City, Delaware.

#### **BUDGET**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 Gov. Rec.
GF	5,148.6	5,310.7	5,488.5
ASF	2,214.8	5,196.3	5,398.5
TOTAL	7,363.4	10,507.0	10,887.0

#### **POSITIONS**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 GOV. REC.
GF	64.0	64.0	64.0
ASF	32.8	32.8	32.8
NSF	28.2	28.2	28.2
TOTAL	125.0	125.0	125.0

MANAGEMENT AND SUPPORT - FISH AND WILDLIFE 40-05-01

- Direct, plan and coordinate the administration of total division program strategies and objectives.
- Direct, plan and coordinate the development of mosquito control, fisheries and wildlife resource initiatives.
- Coordinate, plan and develop state and federal budget funding strategies for division programs and initiatives.
- Represent the division on regional organizations such as the Atlantic States Marine Fisheries Commission, Atlantic Flyway Council, International Association of Fish and Wildlife Agencies, etc.

#### PERFORMANCE MEASURES

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
Implement findings of			
Responsive Management Survey			
<ul> <li>Issue 2 editions of a division</li> </ul>			
newsletter to hunters, anglers			
and boaters.	2	3	3

## WILDLIFE/FISHERIES 40-05-02

#### **ACTIVITIES**

Manage, protect and conserve fish, wildlife and their habitats by:

- conducting research surveys and inventories of fish, shellfish and wildlife populations;
- developing fish and wildlife management plans for:
   13 state-owned wildlife management areas, and 45 freshwater pond and marine fishing access sites, and 21 species of marine fish;
- monitoring, maintaining and regulating harvestable fish and wildlife populations;
- conducting integrated fish and wildlife management programs to promote the health of biological communities;
- providing technical assistance to landowners and government agencies;
- monitoring the users of fish and wildlife resources;
- administering a non-game and endangered species program;
- providing hunter education training programs to promote safety; and
- monitoring fisheries for diseases or lesions to indicate the presence of Pfiesteria.

Provide safe, high-quality opportunities for public enjoyment of fish and wildlife by:

- acquiring lands and waters for recreation and conservation;
- developing and maintaining public facilities;
- controlling aquatic and non-indigenous plants;
- improving fish and wildlife habitat;
- developing and implementing wetland enhancement programs; and
- coordinating and conducting fish, wildlife, acquisition, hunter education and aquatic resource education activities;

Provide coordination, fiscal and accounting services for the Division.

#### PERFORMANCE MEASURES

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
Increase the number of acres of actively managed wildlife habitat on public lands by 5%			
annually.	4,496	6,150	6,458
Comply with Fisheries			
Management Plans (Number)	22	21	23
Increase the number of Hunter Education Certifications by a minimum of 5% per year to minimize hunter related			
accidents.	1,637	1,474	1,547

### MOSQUITO CONTROL 40-05-04

- Monitor mosquito populations and levels of nuisance or disease.
- Investigate and assess controls via Open Marsh Water Management (OMWM) / Integrated Marsh Management (IMM), impoundment management, mosquito fish stocking, woodland control and insecticides.
- Provide temporary controls in response to disease outbreaks or rising nuisance levels through the use of chemical controls.
- Conduct research surveys and inventories of mosquitoes, fish and wildlife populations.
- Continue with the implementation and installation of (OMWM) systems within Delaware's wetlands.
- Continue the implementation of wetland rehabilitation within the Christina/Delaware River Corridor.
- Administer education programs as they relate to wetland restoration mosquito control problems and Integrated Marsh Management needs.
- Develop a biological control program for woodland mosquito species.
- Coordinate with the Riverfront Development Authority to restore Dravo Marsh (Wilmington Wildlife Refuge).

#### PERFORMANCE MEASURES

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
Eradicate 15 % of salt marsh			
mosquito breeding habitat per			
year using Open Marsh			
Water Management	310	300	300
techniques.	Acres	Acres	Acres
Achieve a 5 % increase in			
nuisance free nights	86	75	75
Restore 15 % of the degraded			
wetlands under the Northern			
Delaware Wetlands	81	628	100
Rehabilitation Program.	Acres	Acres	Acres

### DOG CONTROL 40-05-05

#### **ACTIVITIES**

- Administer a statewide dog control program through contracts with the Delaware and Kent County SPCA's.
- Service complaints about dog law violations.
- Monitor dog law compliance and control unwanted dogs.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Increase # animals to shelters statewide by 5%/yr to reduce #	5.912	10,955	6,503
of free roaming animals	3,912	10,933	0,303

## FISH AND WILDLIFE ENFORCEMENT 40-05-06

### **ACTIVITIES**

- Enforce state and federal wildlife, finfish, shellfish, boating laws, both recreational and commercial.
- Encourage the reporting and continue the investigation of reportable hunting and boating accidents.
- Conduct statewide Boating Education Safety Programs in an effort to decrease natural resource type accidents.
- Conduct marine search and rescue operations, and conduct statewide marine rescue training for coastal fire companies.
- Manage and supervise a state vessel registration program.

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
Increase Boating Safety			
Certifications by a minimum of			
5% per year in order to reduce			
boating related accidents.	1,398	1,529	1,605

## PARKS AND RECREATION 40-06-00

#### MISSION

To provide state parks, facilities and programs for outdoor recreational use; to protect natural resources in parks, nature preserves and greenways; to provide technical, financial and planning assistance to the public for park, recreation and conservation areas; and to make available natural and cultural interpretive and educational services.

#### KEY OBJECTIVES

- Reduce visitor and employee accidents in state parks by five percent annually.
- Annually protect 2,000 acres of land through the Open Space Program, through purchase, donation and conservation easements, for parks, wildlife areas, state forests, cultural sites and greenways.
- Increase the number of interpretive trails by five by 2002.
- Improve 200 miles of trails and add 20 miles of trails or paved pathways throughout the state by 2005.
- Assist in the addition of 100 acres of parkland and 70 outdoor recreation facilities at the municipal and county levels by 2005.
- By 2002, increase state park donations and sponsorships to \$40,000 annually.
- Reduce major rehabilitation expenditure and curb facility deterioration by increasing preventive maintenance by five percent.
- Reduce the backlog of infrastructure needs and building rehabilitation by five percent annually.
- Annually, ensure effective, efficient and economical disposition of DNREC historic preservation responsibilities under state and federal laws.
- Locate and identify prehistoric and historic cultural resources on one percent of DNREC landholdings annually.
- Develop cultural resources management plans for two state parks, nature preserves or wildlife areas by 2004.

- Identify and fully document at least four significant folklore resources by 2003.
- Develop one comprehensive Park Management plan annually through 2003 that improves the quality of the environment by emphasizing habitat analysis, improvement/compatibility of recreational uses, environmental education and infrastructure development.

#### BACKGROUND AND ACCOMPLISHMENTS

The division contains five administrative sections to carry out this mission:

- Management and Support
- Operation and Maintenance
- Cultural and Recreational Services
- Planning, Preservation and Development
- Wilmington State Parks

Eleven field offices statewide are responsible for overseeing the operation of 19,291 acres in 14 state parks, Brandywine Zoo, Baynard Stadium, ten nature preserves and four other sites. In addition, the division oversees 1,148 acres through six private nature preserves and 40 conservation easements protecting 1,196 acres.

The division operates units containing a variety of landscape and natural resource features from rolling terrain in the uppermost regions of New Castle County to lands and inland ponds throughout the State to coastal beaches in Sussex County. Cultural and historic resources are protected and interpreted while a wide variety of recreational facilities are provided for Delawareans and out-of-state visitors.

#### BUDGET

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 GOV. REC.
GF	10,978.5	9,320.4	9,308.1
ASF	6,258.8	7,456.4	7,879.9
TOTAL	17,237.3	16,776.8	17,188.0

#### **POSITIONS**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 Gov. Rec.
GF	101.5	104.5	104.5
ASF	60.5	62.5	62.5
NSF	1.0	1.0	
TOTAL	163.0	168.0	167.0

MANAGEMENT AND SUPPORT - PARKS AND RECREATION 40-06-01

#### **ACTIVITIES**

- Policy implementation, coordination and fiscal control.
- Overall guidance in the development of CIP program.
- Personnel recruitment, hiring and training.
- Volunteer recruitment and placement.
- Inter/intra agency coordination for the division.
- Coordination of services for five citizen advisory councils.
- Coordination of state park friends organizations.
- Mini/micro computer support for the division.
- Management of Twenty-First Century Park Endowment and all state park trust funds.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Increase # of volunteer hours	26,483 hrs.		
by 2%	3.17%	26,000	27,552

## *OPERATIONS AND MAINTENANCE* **40-06-02**

#### **ACTIVITIES**

- Manage daily operations of 14 state parks including special revenue generating facilities (Biden Environmental Center, Killen's Pond Water Park, Cauffiel Estate, Judge Morris, Bellevue Hall, etc.).
- Conduct building and grounds maintenance.
- Enforce state park rules and regulations.
- Provide for site and visitor safety and security.
- Provide visitor services and assistance.
- Collect revenue and administer concession.
- Conduct marketing and promotion.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Maintain 92% customer service			
rating of state park visitors	92	92	92
Increase park revenue by 3%	6,159,600	5,868,219	6,534,719
Implement campground			
reservation at 5 state parks			
facilities	0	5	5

## CULTURAL AND RECREATIONAL SERVICES 40-06-03

#### **ACTIVITIES**

- Plan and administer programs and special events for the public.
- Provide environmental education programs.
- Provide natural and cultural resource interpretative programs and exhibits.
- Conduct historic and prehistoric archeological surveys and preservation management plans.
- Provide folk life conservation and interpretation.
- Administer the Delaware Conservation Corps Program.
- Curate archeological, historic and folklife collections.
- Update and customize wildlife management plans at each state park.

#### PERFORMANCE MEASURES

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
Increase # people participating in park programs by 2.5%	205,824 13.4%	182,921	216,243

# PLANNING, PRESERVATION AND DEVELOPMENT 40-06-04

- Plan, design, engineer and construct facilities and infrastructure within the state park system.
- Coordinate land protection activities, including acquisition, easements and donations, under the auspices of the Land Protection Act.
- Administer the natural areas program through the Land Preservation Office as defined by law.
- Administer state and federal grants and provide technical assistance to county and local governments for land acquisition, outdoor recreation facility and greenway development.
- Assess statewide outdoor recreation facility needs and issues.
- Coordinate and oversee the Council on Greenways and Trails, Natural Areas Council, and the Open Space Council.
- Provide staff and administrative support for the Open Space Council.

- Coordinate a Geographic Information System (GIS) that supports the mission to protect resources and provide recreation opportunities.
- Plan and develop state park trail system.
- Develop and implement comprehensive management and nature preserve plans.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Protect 2,000 acres that meet the criteria of the Land			
Protection Act	3,128	2,000	2,000

## WILMINGTON STATE PARKS 40-06-05

#### **ACTIVITIES**

- Implement a comprehensive maintenance and capital improvement plan to upgrade standards.
- Enforcement of park rules and regulations.
- Provide visitor safety.
- Manage the Brandywine Zoo and Baynard Stadium.
- Provide public interpretive programming.
- Coordinate special events and facilities.
- Provide pedestrian links between the various park units and acquire remaining land in holdings at Alapocas Parks.

#### PERFORMANCE MEASURES

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
Increase number of visitors to	56,457		
Brandywine Zoo by 5%.	(Baseline)	70,000	59,279
Maintain number of stadium	61		
events at 60 per year.	(Baseline)		60
Increase number of park			
programs/attendance by	17/269		
100%.	(Baseline)		34/538

## SOIL AND WATER CONSERVATION 40-07-00

#### **MISSION**

To preserve and protect the state's soil, water and coastal resources by managing the state's shoreline, coastal zone and navigable waterways; regulate coastal and urban land use and construction activities; promote wise agricultural and urban land management practices; promote wise water management practices to preserve local agricultural interests, protect urban communities and provide for public safety; and ensure that federal activities, permits and licenses, Outer Continental Shelf plans and grants-in-aid are consistent with economic and environmental policies.

#### **KEY OBJECTIVES**

- Assist the Nutrient Management Commission in: managing and regulating the generation and application of nutrients in order to meet load reduction targets established by approved TMDLs and meet or exceed surface water quality standards for nutrients by 2007; establishing a Nutrient Management Planning Program; and formulating a systematic and economically viable Nutrient Management Program that maintains profitability and improves water quality.
- Manage storm water runoff, as required by the Sediment and Storm Water Management regulations, from 100 percent of new development at the predevelopment rate for the two-year, tenyear, and (100-year in NCCo.)/24-hour rainfall event.
- Protect 10,000 additional acres of land through the construction of drainage, flood control and water management systems by the year 2003.
- Reduce imperviousness of new development by 20 percent by the year 2005.
- Reduce wetland impacts by 25 percent during planning and construction of new tax/public ditch projects and by ten percent for maintenance of existing tax/public ditch projects through the year 2003.
- Restore five publicly accessible small boat navigation channels and associated facilities statewide to their authorized dimensions by removing undesirable accumulated sediment in

- response to legislative, inter/intra agency and constituent requests by June 2001.
- Achieve no net loss of recreational and protective beach area along the publicly accessible, developed portions of the Delaware Bayshore and Atlantic Ocean coast as measured on a three to seven year re-nourishment cycle.

#### BACKGROUND AND ACCOMPLISHMENTS

**Drainage.** Establishing and maintaining public drainage facilities (tax/public ditches) provides public benefits including: stabilizing agricultural production; more efficient nutrient utilization; reducing excess nutrient transport; decreasing road maintenance; trapping erosion and sediment; storm water management for urban and rural flooding; establishing a future maintenance program funded by tax ditch landowners; and establishing a firm base for the installation of agricultural Best Management Practices (BMPs).

In the past five years, the division has administered 577 Rural Conservation and Development projects, including a variety of flood abatement and drainage projects which were funded with \$29 million from the Twenty-first Century Fund. Approximately 44 percent of the jobs in the first four fiscal years have been completed. The department has received over 3585 requests for drainage assistance during the past 6 1/2 years, of which approximately 71 percent have been resolved. The remainder have all been investigated and are pending due to rights-of-way, permits and/or funding.

Shoreline and Waterway Management. Rising sea levels, storms, and permanent construction interferes with the natural landward migration of beaches and dunes, and threatens Delaware's shoreline resources. These problems underscore the need to improve the State's management strategies regarding coastal storm hazards and beach erosion. Since 1994, over 2,600,000 cubic yards of sand were placed on Delaware beaches and over 350,000 cubic yards of sediment were dredged out of Delaware's lakes, rivers and bays. The extensive damage to the dunes and beach from the severe northeasters in January and February of 1998 were repaired. The division conducted, in cooperation with local governments, an economic analysis of the value of beaches to the State that was called for by the Beach Replenishment Task Force. The analysis estimated severe economic losses over the next five years if the ocean beaches were no longer replenished.

**District Operations.** District Operations assists the Conservation Districts in tailoring the programs to meet the needs of diverse constituents, oversees the statewide implementation of the state's sediment control and storm water management program, and coordinates statewide non-point source pollution control programs. District Operations programs combine research and education, technical assistance, financial incentives, and regulation with interagency and private partnerships. All programs target Delaware's top two non-point pollutants, excess sediment and nutrients.

The Storm Water Management program has successfully designed and coordinated training and implementation projects throughout the state. To date, 4,100 people have participated in the training. In efforts to better manage nutrients from animal operations, the division, in conjunction with the Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA), has applied for and received \$8.2 million in federal Conservation Reserve Enhancement Program funding to create more than 6000 acres of filter strips, buffers and wetlands. The division also coordinated with Maryland and a private contractor on a poultry litter composting and marketing demonstration project, that is in its third and final year.

Coastal Management Programs. The Delaware National Estuarine Research Reserve (DNERR) completed construction of a 5500 square foot St. Jones Center for Estuarine Studies. The building has an auditorium, wet laboratory, classroom, research laboratory and office space. A geothermal heating and cooling system and tertiary wastewater treatment package were also constructed.

The Delaware Coastal Management Program (DCMP) developed "Environmental Goals and Indicators for Delaware's Coastal Zone" through the Environmental Indicators Technical Advisory Committee in accordance with the Memorandum of Agreement for Coastal Zone An update to the DCMP program Regulations. document was completed along with duly promulgated policies used in federal consistency. Implementation activities for Pea Patch Island included financing new mooring buoys for oil spill response and production and airing a PBS documentary. DCMP hosted an international team of migratory shorebird experts researching the relationship between the horseshoe crab spawning and shorebird spring migration in the Delaware Bay.

#### BUDGET

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 GOV. REC.
GF	8,589.0	4,901.5	4,997.8
ASF	4,950.6	2,924.8	2,985.5
TOTAL	13,539.6	7,826.3	7,983.3

#### **POSITIONS**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 Gov. Rec.
GF	46.7	46.7	46.7
ASF		1.0	2.0
NSF	15.3	15.3	16.3
TOTAL	62.0	63.0	65.0

MANAGEMENT AND SUPPORT - SOIL AND WATER 40-07-01

#### **ACTIVITIES**

- Provide administrative direction and supportive professional and technical services to all divisional programs and projects.
- Provide program planning, coordination, engineering, fiscal support and clerical services.
- Provide liaison among local, county, state and federal governmental legislators, officials and agencies.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Meet 100% deadlines for official requests from the department's			
Office of the Secretary	100	100	100

## **DRAINAGE 40-07-02**

#### **ACTIVITIES**

- Conduct environmentally sensitive tax ditch planning and public ditch planning.
- Assist counties with legally mandated updates to tax ditch property owner files for all tax ditch properties.
- Provide technical assistance (surveying, engineering, environmental evaluations, permit applications) for tax ditch formation and construction, and provide tax ditch construction funding.

- Provide technical assistance to all existing tax ditch organizations for operations and maintenance, and pursue and encourage the utilization of environmentally friendly maintenance techniques and practices.
- Assure the implementation of the State's "no-netloss of wetlands" policy in water management projects, and continue the development and demonstration of new and innovative wetland restoration techniques and concepts.
- Maintain, implement and expand Best Management Practices (BMP) for tax ditch planning and construction that incorporate water management for water dependent resources within the watershed.
- Provide technical assistance to Conservation Districts.
- Install and protect highway culverts to expedite tax ditch construction.
- Cooperate and assist the Department of Transportation with emergency bridge replacement as needed.
- Investigate and resolve drainage complaints from landowners, public officials and agencies.
- Provide education outreach to agricultural and environmental communities to demonstrate the working relationship of drainage, agriculture and wetlands.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Increase acres of agricultural and residential land receiving drainage, flood protection and			
water management	426,000	430,000	434,000
Reduce potential adverse wetland impacts by 25% during planning and construction of new tax/			
public ditch organizations	57%	25%	25%

## SHORELINE AND WATERWAY MANAGEMENT 40-07-03

- Develop and carry out beach preservation projects to protect and preserve Delaware's coastline.
- Administer coastal construction regulatory program.
- Improve storm hazard preparedness and mitigation.

- Reduce natural hazard losses through cooperation with FEMA and DEMA in state natural hazard mitigation programs.
- Provide technical assistance to local governments and homeowners to improve beach and dune management.
- Identify sufficient sand sources for beach nourishment work for a ten-year maintenance period.
- Provide assistance to property owners, elected officials at all levels, and the media in understanding the complex physical dynamics of beach erosion and storm impacts to aid in pre-and post-coastal storm impact reduction and recovery.
- Operate and maintain sand bypass facility at Indian River Inlet.
- Conduct repair and maintenance program of publicly owned coastal dunes.
- Improve and maintain navigational channels statewide.
- Restore the environmental integrity of state-owned lakes and ponds.
- Monitor erosion rates of beaches and dunes through a comprehensive surveying program.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
# of publicly accessible small			
boat navigation channels			
restored to authorized			
dimensions		4	5

## DISTRICT OPERATIONS 40-07-04

#### **ACTIVITIES**

- Provide comprehensive Erosion & Sedimentation (E&S) and Storm Water Management Training to the land development community, in partnership with other agencies and members of the regulated community.
- Provide financial, technical and compliance assistance to delegated agencies for plan review and field inspection services on 6,000 acres of development and construction projects.
- Provide sediment and storm water management field inspection on federal and state funded, non-DELDOT construction activities.
- Implement NPDES Phase II requirements for storm water management.

- Direct and administer Clean Water Act Section 319 grant funds for priority water quality assessment and implementation of best management projects.
- Provide training programs for contractors, developers, animal producers and agency personnel.
- Provide technical assistance to other agencies, engineers and consultants, farmers and animal producers, contractors and developers and educators, college professors and university officials.
- Assist the newly formed Nutrient Management Commission with the development of Nutrient Management Regulations.
- Implement nutrient management plans and BMPs through the work of eight conservation district planners in the Delaware Bay, Chesapeake Bay and Inland Bays Watersheds
- Provide staff support for DNREC's Whole Basin Total Maximum Daily Load effort by performing related assessment and implementation activities in the Piedmont, Chesapeake, Inland Bays and Delaware Bay Basins.
- Implement and assess environmental effectiveness of nonstructural sediment and storm water management practices as a pilot project in Kent County
- Coordinate with state/federal agencies and the University of Delaware in implementing programs for animal feeding operations.
- Develop and support a statewide construction project database system and a District Operations-Conservation District based, geographic information system that allows for nutrient loading estimates at the sub-watershed level.
- Administer the Conservation Cost Share Program and agricultural component of the State Revolving Loan Fund Program in coordination with federal Farm Bill programs.
- Direct the state's efforts and funding for the USDA's Conservation Reserve Enhancement Program.

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
% soil saved on active construction			
sites through compliance with the			
Delaware Sediment & Stormwater			
Program		65	65
Maintain 3% reduction nitrogen			
loadings in the Chesapeake,			
Delaware Bay and Inland Bays			
watersheds	4	3	3

## DELAWARE COASTAL MANAGEMENT 40-07-05

#### **ACTIVITIES**

- Administer NOAA's grant awards to DNREC for coastal management and DNERR.
- Provide grant funding to improve responsiveness to coastal management issues including coastal storm related damage reduction, near-coastal water pollution abatement, habitat improvement, oil pollution prevention and response, coastal access and pollution prevention.
- Administer the federal consistency provisions of the Coastal Zone Management Act for Delaware.
- Provide conflict resolution between multi-users of coastal resources.
- Promote sustainable development in Delaware's Coastal Zone.
- Implement actions to protect and enhance the Pea Patch Island Region in accordance with the Special Area Management Plan.
- Implement enhancement plan approved by NOAA for cumulative and secondary impact avoidance and coastal wetland protection.
- Implement educational programs for the public, schools, resource users and decision-makers addressing coastal resource issues.
- Develop Environmental Indicators in accordance with Memorandum of Agreement for Coastal Zone Regulations.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
% tracked of nationwide permits issued by U.S. Army			
Corps of Engineers	75	100	100
# strategies implemented at			
Pea Patch Island		12	15

## WATER RESOURCES 40-08-00

#### **MISSION**

To protect and enhance the quality and quantity of Delaware's waters and wetlands.

#### **KEY OBJECTIVES**

- Assist in Governor's mandate to assure a safe, reliable water supply for New Castle County by providing technical and policy support to the Water Supply Task Force.
- Prevent increases and strive to reduce nutrients, sediments, and toxic substances in the Piedmont Basin, Chesapeake Basin, Inland Bays Basin, and Delaware River Basin by 2005.
- Assure that all ground waters and surface waters used for drinking water are protected by 2008 to meet the long-term goal of the Drinking Water Standards.
- Assure that all drinking water wells are constructed and sited such that public exposure to toxic contaminants is avoided.
- By the year 2003, fully implement a no net loss policy for the unavoidable losses of wetlands and for the unavoidable physical alteration of streams by requiring mitigation in wetlands and subaqueous lands permits.
- Maintain no net loss of approved waters for shellfish harvest and consumption.
- Maintain the percentage of waterways meeting fishable and swimmable goals at the levels reported in the 1998 Watershed Assessment Report.
- Source water susceptibility assessments will be completed for all public water supply systems by 2003.
- Assist communities by providing funding sources, such as the Twenty-first Century Fund for water and wastewater infrastructure.
- Expand the State Revolving Fund Expanded Use Program annually, to include new non-point source opportunities, to include brown fields and stream bank protection.

 Begin a compliance inspection program for small on-site wastewater systems starting in New Castle County.

#### BACKGROUND AND ACCOMPLISHMENTS

The Division of Water Resources recognizes that water conservation is best achieved through the cooperative efforts between the division and its constituents. Such cooperation directly fulfills the division policy and responsibility of education and communication regarding environmental compliance, conservation and management.

Among the responsibilities satisfied by the division are the implementation of various regulatory programs; providing technical skills to programs; laboratory services; educational services; performing applied research; and helping finance water pollution control measures.

The division continues to protect the interests of Delaware's residents by following its operating motto of "clean water today and tomorrow."

#### **Accomplishments**

- Effective drought management via lead support to the Governor's Drought Advisory Committee.
- Achieved "excellent" customer satisfaction rating from 90 percent of respondents.
- Supported the Wastewater Facilities Advisory Council and assured Twenty-first Century Fund money is allocated for wastewater.
- Expanded and administered water pollution control loans to communities, farmers (including dairy) and underground tank owners through the State Revolving Loan Fund (SRF).
- Improved the efficiency of the septic loan program.
- Continued streamlining the well/septic permitting system.
- Implemented water well construction regulations' revisions.
- Continued to develop innovative technologies for wastewater disposal and shoreline stabilization.
- Continued to implement whole basin management practices in the Inland Bays, Nanticoke and Christina River Basins.

- Assisted communities seeking central wastewater infrastructure facilities.
- Coordinated and implemented the Comprehensive Conservation and Management Plan (CCMP) for the Delaware Estuary.
- Implemented the Comprehensive Conservation and Management Plan for the Inland Bays.
- Continue to make progress in the Total Maximum Daily Load (TMDL) development process.

#### **BUDGET**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 GOV. REC.
GF	9,255.9	8,805.6	8,752.1
ASF	2,688.3	3,307.3	3,666.8
TOTAL	11,944.2	12,112.9	12,418.9

#### **POSITIONS**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 GOV. REC.
GF	71.3	73.3	73.3
ASF	63.0	64.0	62.0
NSF	30.7	32.7	33.7
TOTAL	165.0	170.0	169.0

MANAGEMENT AND SUPPORT - WATER RESOURCES 40-08-01

- Improve the levels of technical support, education, and regulatory services to the citizens of the State to better protect the state's water resources.
- Actively implement the Delaware Estuary CCMP action items.
- With the Center for the Inland Bays, implement the Inland Bays Comprehensive Conservation and Management Plan.
- Provide technical support and strategic input to local governments which maintain projects that affect wetlands.
- Provide geographic mapping and analysis of land use/land cover information for priority basins.
- Implement a targeted water resource educational and constituent outreach plan.
- Produce maps from the Geographic Information System (GIS) in support of DNREC programs.
- Provide support to the Wastewater Facilities Advisory Council.

- Provide wastewater engineering/financial planning assistance to communities to help them develop new wastewater pollution control projects.
- Provide low-interest water pollution control loans to communities, homeowners, and agricultural producers.
- Provide Twenty-first Century Fund grant subsidies to communities to make water pollution control projects affordable.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Develop / implement constituent outreach program.	10	15	20
Develop / implement enhanced accounting system to assess the expenditure effectiveness	50	75	100
Implement additional 5% of the Inland Bays CCMP action items.	5	5	5
Provide wastewater engineering/financing planning services to communities/facilities	4	4	4

## ENVIRONMENTAL LABORATORY 40-08-02

#### **ACTIVITIES**

- Perform biological assessments and chemical analyses to promote health and safety and enhance the quality of life for Delaware's citizens. Analyses support TMDL and Water Quality Standards Development, State Superfund and Brownfields Site Investigation and Remediation, Emergency Response (Fish Kills, Chemical Spills, Drought Emergency), National Pollution Discharge Elimination System (NPDES), Toxics in Fish, Air Surveillance, Pfiesteria, Shellfish and Recreation Waters Programs.
- Continue initiatives to implement International Organization for Standardization (ISO) 9000 standards and statistical process controls.
- Continue to develop the Laboratory Information Management System (LIMS) to enhance quality and productivity and to facilitate information sharing throughout the section, division, and department.
- Provide educational initiatives for teachers and youth in schools, colleges, and universities and utilize skills of senior citizens through SEEDelaware, Science Alliance, job shadowing, internships, mentoring, tours, and volunteer programs.

- Identify new market opportunities, anticipate and satisfy clients' changing needs by expanding laboratory analytical capabilities to incorporate the best available technology.
- Implement pollution prevention strategies in selection of methods, equipment and supplies to minimize waste generation.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Improve % laboratory testing			
efficiency	6	3	5
Improve laboratory testing cycle			
times	2.3	3	5
Increase % time in laboratory			
performance related training	6	3	3

## SURFACE WATER DISCHARGES 40-08-04

#### **ACTIVITIES**

- Equalize annual permit production and align permit issuance on a watershed basis to eliminate permit backlog by Fiscal Year 2000.
- Use National Pollutant Discharge Elimination System (NPDES) permits to implement Pollution Control Strategies for TMDLs.
- Issue NPDES permits that contain the necessary requirements and conditions i.e., toxic controls, pretreatment requirements, storm water, Combined Sewer Overflow (CSO), sludge requirements, etc.
- Issue licenses for wastewater treatment operators.
- Review plans and issue permits for construction of wastewater collection and treatment facilities.
- Issue permits for beneficial reuse of biosolids.
- Initiate timely and appropriate enforcement action.
- Conduct compliance inspections for NPDES facilities.
- Periodically review and update program regulations for point sources.

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Increase % biosolids beneficially	0.5	0.6	07
used.	95	96	97
Increase # stream miles meeting designated uses that contain point			
source discharges.	68	70	72

## GROUND WATER DISCHARGES 40-08-05

#### **ACTIVITIES**

- Encourage designers/applicants to incorporate land treatment systems into their wastewater management plans.
- Perform construction and compliance inspections on 100 percent of all large on-site wastewater systems.
- Perform construction inspections on 95 percent of all small systems.
- Issue large septic permits and spray permits in compliance with all applicable regulations.
- Issue replacement/repair permits for all malfunctioning subsurface systems.
- Issue Underground Injection Control (UIC) permits/authorizations in compliance with all applicable regulations.
- Locate and inventory all unauthorized UIC wells.
- Perform inspections on UIC wells.
- Prevent non-complying UIC systems from polluting ground water.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
% inspected systems	7.5	90	0.5
constructed properly % alternative on-site	75	80	83
treatment systems inspected			
for operational compliance	0	30	40

## *WATER SUPPLY* **40-08-06**

#### **ACTIVITIES**

- Provide drought management and support to the Governor's Drought Management Committee.
- Provide water supply planning, and technical and policy guidance, with emphasis on the Water Supply Plan for New Castle County.
- Review and approve allocation permits for ecological and public health protection.
- Review and approve water well permits for proper placement and construction.
- Maintain Water Well and Allocation Data Management (DWUDS) database in TEPP.

- Establish long-term protection strategies for public drinking water supply areas.
- Provide assistance to New Castle County for requirements of New Castle County WRPA Ordinance.
- Provide public education specific to water conservation, wellhead protection and source water protection
- Conduct research and monitoring of ground water resources.
- Perform groundwater reviews for non-hazardous waste sites.
- Provide for source water protection program development under the Federal 1996 Safe Drinking Water Act Amendments (joint cooperation with DHSS and PSC).
- Participate in Comprehensive State Ground-Water Protection Program Development, under Whole Basin Management and Performance Partnership Agreement.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
% 1-day turnaround time for			
domestic well applications	95	95	95
% well violations referred for			
formal enforcement	10	10	10
% well permit data entered			
within 5 days of receipt of			
information	90	80	90
% hydrogeologic reviews			
provided within 30 days for			
sites requiring ground-water			
monitoring	80	95	95
% 2-day turnaround provided			
for drinking water wells			
located near contaminated			
sites	95	95	95
Provide for the delineation of			
sourcewater protection areas	10	15	100

## WATERSHED ASSESSMENT 40-08-07

- Monitor and accurately assess water quality and shellfish distribution and processing facilities relative to international NSSP specifications.
- Accurately assess the health risk associated with swimming in natural waters of the State, and maintain tenable bather-contact water quality criteria (standards) on the basis thereof.
- Complete bi-annual water quality inventory.

- Issue advisories as appropriate to ensure safety of water for swimmers.
- Develop Total Maximum Daily Loads (TMDLs) in accordance with the department's TMDL schedule.
- Develop and implement Pollution Control Strategies (PCSs) to meet pollutant load reduction goals established by TMDLs.
- Review and revise, as necessary, Delaware's Surface Water Quality Standards.
- Develop wetland reference sites to quantify and qualify their water quality and habitat functions as related to wetland richness.
- Implement management actions that reduce fresh and tidal wetlands loss.
- Implement management actions that will protect the public from pfiesteria related toxic events.

#### PERFORMANCE MEASURES

- ERI ORIMI			
	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
% waters attaining swimmable			
use goal	2	2	2
% waters attaining fishable use			
goal	17	17	17
% of impaired waterbodies			
with Pollution Control			
Strategies in place	0	15	25
Enhance swimmer protection at			
natural bathing beaches and			
maintain incidence of water-			
borne disease at no greater than			
current levels (# illnesses)	<10	<10	<10
Maintain incidence of shellfish-			
borne disease at no greater			
than current levels (# illnesses)	5	5	5
Protect water contact users by			
maintaining the incidence of			
pfiesteria-borne illness at zero.			
(# illnesses).	0	0	0

## WETLANDS AND SUBAQUEOUS LANDS 40-08-08

#### **ACTIVITIES**

- Maintain an inventory of tidal wetlands.
- Determine wetland change (gain/loss) on a five-year basis.
- Issue wetlands permits.
- Issue subaqueous lands permits and leases.
- Improve marina operations in state waters.
- Review and issue marina construction permits.
- Issue 401 Water Quality Certifications.
- Promote "bio-engineering" as preferred method of shoreline stabilization.
- Promote stream channel in riparian restoration.

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
% annual increase linear ft. of			
shoreline stabilized with rip-rap			
or vegetation vs. bulkhead	20	20	20
% of shoreline stabilized with			
soil bioengineering and rip-rap			
vs. bulkheading	75	75	85
% increase in # approved			
marina operation and			
maintenance plans	5	10	10

## AIR AND WASTE MANAGEMENT 40-09-00

#### **MISSION**

To optimize the air resources and waste management practices within Delaware by working cooperatively with the citizens and businesses of Delaware to protect public health, welfare and the environment.

#### **KEY OBJECTIVES**

- Reduce oxides of nitrogen (NOx) emissions by 32.0 tons/day from 1994 levels by 2003 via Ozone Transport Commission NOx MOU.
- Attain one-hour ozone standard by 2005 in New Castle and Kent counties and maintain the ozone standard in Sussex County.
- Ensure that 75 percent of facilities inspected annually are generally compliant with air quality regulations at time of inspection.
- Minimize exceedences of air quality standards for particulate matter, sulfur dioxide, carbon monoxide and nitrogen dioxide.
- Reduce by more than 95 percent halogenated solvent emissions from solvent metal degreasing operations, significantly reduce air toxic emission form gasoline distribution facilities, and reduce by 59 percent the emissions of 11 air toxics from various petroleum refinery sources by 2002.
- Ensure 100 percent compliance with permit requirements for contaminant discharges from solid waste transfer and disposal facilities.
- Reduce the percentage of active LUST sites impacting drinking water to less than 15 percent by 2005.
- Achieve an 80 percent compliance rate for operating USTs by 2005.
- 40 percent of high priority sites currently on the inventory under the Delaware Hazardous Substance Cleanup Act (as of Sept. 1, 1995) will be remediated by 2001.
- Ensure 100 percent of hazardous and solid waste facilities return to compliance within 180 days by 1999.

- Minimize impacts of salvage yards on water quality and public health by 2001.
- Reduce generation of PBT compounds by 50 percent over 1991 generation rates by 2005.
- Clean up and make available for reuse eight sites during Fiscal Year 2001.
- Promote increased recycling of industrial solid waste and municipal solid waste.
- Provide timely and appropriate response to citizen complaints and hazardous materials incidents and enforce compliance for other Health and Safety Objectives.
- Maintain the ability to continue responding to environment complaints, citizen inquiries, and environmental emergencies on a 24-hour basis.

#### BACKGROUND AND ACCOMPLISHMENTS

Environmental Response. Environmental Response Branch (ERB) staff provide a rapid, comprehensive response to time-critical emergency and non-emergency environmental incidents around-the-clock for the protection of human life, health, safety and the environment. In Fiscal Year 1999, the Emergency Response staff responded to 435 incidents; 60 percent of the total number of incidents occurred in New Castle County, 60 percent of the total number of incidents involved no other state emergency response agencies but DNREC, and 60 percent of the total number of incidents were petroleum-related.

**Enforcement.** The Office of Enforcement is responsible for the investigation and prosecution of violations of the laws and regulations of the Division of Air and Waste Management, the Division of Water Resources, and the Division of Soil and Water Conservation. Additionally, Enforcement Officers are first responders to environmental emergencies, and supplement the Emergency Response Branch as trained Hazardous Materials Technicians. The section maintains a 24-hour toll free telephone number to receive citizen's complaints and incident reports from local government and industry. In Fiscal Year 1999 the section investigated 6086 incidents. Based on the growing number of citizen complaints and reportable incidents, the Enforcement Section developed a Community Policing Program. The program is designed to increase environmental awareness in local neighborhoods and assist those citizens with any environmental issues that are present. As a supplement to the Community

Policing Program, Enforcement Officers have also undertaken the responsibility of providing environmental training to local governmental agencies and police departments. In Fiscal Year 1999 officers conducted 90-community outreach and training programs.

Air Quality Management. Since the passage of the 1990 Clean Air Act Amendments, the department has made unprecedented progress in its efforts toward providing clean air to all its citizens. Delaware, as a result of past efforts, has attained and maintained the Air Quality Standards for all pollutants except for Ozone. By fully adopting and VOC reduction plans, the State has taken a major step in its efforts to attain the During 1999, the department Ozone standard. enhanced its permitting issuing nearly all the consolidated Title V Operating Permits. The Title V Program is designed to assure that major facilities come into compliance and stay in compliance by consolidating into a single document all of a facility's air permits, compliance schedule and monitoring and reporting requirements. The Small Business Technical Assistance Program continues to provide technical advice and assistance to small businesses to aid them in complying with regulations.

#### Waste Management Site Investigation & Restoration.

The branch has identified around 435 hazardous substance release sites in Delaware, of which 17 are National Priority List (NPL) sites managed by the EPA. Three NPL sites have been cleaned up and removed from the list. With the passage of the Delaware Hazardous Substance Cleanup Act (HSCA) in 1990, the branch has assumed a major role in investigating and cleaning up over 120 of the non-NPL sites which pose a threat to public health, welfare and the environment. In 1993, the branch initiated the Voluntary Cleanup Program (VCP) under which a party can come forward and remediate a contaminated site and make it available for reuse. This program was formalized through amendments to HSCA in July 1995.

The branch has investigation and cleanup ongoing at 110 sites: 49 under HSCA, 46 under VCP and 15 (8 NPL sites and 7 Brownfield Assessments) under the federal program. Work has been completed to date at 9 NPL sites, 49 HSCA sites and 46 VCP sites.

**Underground Storage Tank.** Delaware's Underground Storage Tank (UST) Program regulates petroleum and hazardous substance tanks through their life cycle. The program has two main goals. One goal is to identify and clean up leaks that have occurred. The second goal is to

prevent future leaks that could lead to contamination of Delaware's water supplies or the accumulation of explosive vapors in residences, businesses or utility conduits. Currently, Delaware has 11,236 registered USTs and has identified over 2,774 leaking underground storage tank sites and remediated over 2,200 of those sites. A program milestone was achieved on September 27, 1996 when Delaware's UST program received program delegation from EPA Region III. Delaware's UST program is now authorized to operate in lieu of the Federal UST program. In 1997 the UST program in coordination with the Delaware Economic Development Office and the State Revolving Fund announced a new loan program for UST sites. program named PLUS will assist owners upgrading, removing and remediating UST sites. Another milestone was reached on December 22, 1998 when the final upgrade deadline for active underground storage tank systems passed. As of this date, all tanks must meet the corrosion protection standards as well as leak detection, spill and overfill protection requirements.

Solid and Hazardous Waste Management. Waste Management is responsible for ensuring solid wastes (municipal and industrial) are managed in a manner that is protective of human health and the environment. Solid Waste is also responsible for promoting waste reduction, waste re-use and waste recycling. In Fiscal Year 1999, Solid Waste oversaw the completion of new landfill cells, and effectively monitored the permits for existing landfill's operations at the Delaware Solid Waste Authority and Delaware Recyclable **Products** Incorporated. Also Fiscal Year 1999, Solid Waste ranked 40 existing Debris Disposal Pits and remediated eight of the highest priority sites. In the recycling arena, Solid Waste was successful in obtaining legislation designed to encourage the recycling of tires which currently reside in piles throughout the state. In addition, Solid Waste has begun development of Beneficial Use Guidelines for Industrial Solid Waste and is coordinating development of recommendations to increase municipal solid waste recycling per Executive Order 60.

Hazardous Waste Management is responsible for protecting public health and the environment from the mismanagement of approximately 22,000 tons of hazardous waste generated in Delaware every year. Hazardous Waste Management continued its pursuit of sound hazardous waste management through effective compliance assistance, permitting and enforcement.

#### BUDGET

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 GOV. REC.
GF	3,883.7	3,558.9	3,754.6
ASF	7,987.9	11,213.4	11,392.0
TOTAL	11,871.6	14,772.3	15,146.6

#### **POSITIONS**

	FY 1999 ACTUAL	FY 2000 BUDGET	FY 2001 Gov. Rec.
GF	53.0	53.0	53.5
ASF	91.8	95.8	95.3
NSF	60.2	59.2	59.2
TOTAL	205.0	208.0	208.0

## MANAGEMENT AND SUPPORT - AIR AND WASTE 40-09-01

#### **ACTIVITIES**

- Develop and implement policies and procedures.
- Oversee administrative functions: grants, budget, personnel, legislation and fiscal control.
- Coordinate division efforts in teacher education and general educational activities to strive to promote citizen awareness and responsible citizen action.
- Coordinate division IRM needs and facilitate data integration within the division and between the division and the department to support comprehensive environmental protection and public access to environmental information.
- Coordinates performance measurement for federal and state budgeting purposes.
- Provide enforcement support for the divisions of Air and Waste Management, Water Resources and Soil and Water Conservation.
- Participate with federal, state and local emergency responders and planning agencies.
- Administer background investigations on corporations and individuals seeking environmental permits.
- Participate in and evaluate multi-media inspections and permitting.
- Oversee the response to Freedom of Information Act (FOIA) requests received by the division.
- Develop a Freedom of Information Act regulation.
- Provide and coordinate legal assistance for the division.
- Upgrade response capabilities through planning, training and conducting exercises.
- Coordinate and plan response activities through the State Emergency Response Commission (SERC).

- Maintain a database of complaint and incident history received from the division's 24-hour complaint line.
- Expand or modify use of current response resources and technologies, including increasing the utilization and capabilities of computer-related response support.
- Maintain and develop policies, practices and procedures to prevent responder injury rates and improve effectiveness.
- Maintain a Community Policing Unit within the department.
- Administer the Competency Based Career Advancement Pilot program for Environmental Officers assigned to the division.
- Provide environmental enforcement awareness training to other police agencies within the state.

#### PERFORMANCE MEASURES

	FY 1999 Actual	FY 2000 Budget	FY 2001 Gov. Rec.
Maintain zero responder			
injury record	0	0	0
Number of emergency			
responses to incidents	435	504	526
# of citizen complaints	6086	8035	7364
# of Notifications to Dept. of			
Spills etc.	511	200	220
# of FOIA requests received			
& responded	890	1020	1077

## AIR QUALITY MANAGEMENT 40-09-02

- To take advantage of efforts made by other states, participate actively in Ozone Transport Commission (OTC), State and Territorial Air Pollution Control Administrators (STAPPA), and Mid-Atlantic Regional Air Management Association (MARAMA) activities.
- Direct the State Implementation Plan (SIP) revisions as required by the Clean Air Act Amendments (CAAA) of 1990.
- Promulgate new air regulations mandated by the CAAA.
- Develop and submit emission inventories consistent with the CAAA.
- Oversee existing motor vehicle exhaust emission pressure and anti-tampering tests.

- Track air quality status, especially ozone attainment status, and implement monitoring program for fine particulate matter.
- Increase inspections and continue permitting air contaminant sources pursuant to the new and more complex Title V permitting program.
- Expand the stack-testing program in support of the enhanced permitting program.
- Continue to implement the CAAA Section 112(r) Accidental Release Program.
- Continue implementation of the Emergency Planning and Community Right-to-Know (EPCRA) Program components.
- Continue to implement the Small Business Technical Assistance Program.
- Administer and update the asbestos abatement program.
- Work with other public and private entities to develop or implement transportation and voluntary control programs such as Ozone Action Day.
- Expand public education and outreach activities.
- Continue enforcement activities to identify and bring significant violators and non-notifiers into compliance.
- Continue entering data into the national Aerometric Information Retrieval System (AIRS) on most Delaware facilities, all enforcement activities, modifications of facilities, new major construction permits, continuous monitoring system inspections and compliance schedules.
- Initiate planning and implementation efforts to address longer term ozone, fine particulates and regional haze problems.
- Review of source test protocols, observation of source tests and evaluation of test reports for the Motiva Repowering Project.
- Begin expanded air toxics monitoring at the Wilmington air monitoring site by January 1, 2001.
- Continue to implement audit procedures for the Inspection and Maintenance Program Two Speed Idle Test and evaluate data.
- Develop and implement audit procedures for the voluntary inspection and maintenance of 240 lane located at the new Wilmington Motor Vehicle Inspection lanes.

#### PERFORMANCE MEASURES

	FY 1999	FY 2000	FY 2001
	Actual	Budget	Gov. Rec.
By 12/03, reduce oxides of			
nitrogen (NOx) emissions by 32.0			
tons/day via the OTC MOU	75%	75%	75%
By 1/00, issue all Title V			
Operating Permits	80%	100%	100%
By 12/00, adopt all measures			
necessary to attain the 1-hour			
ozone standard.	90%	90%	100%

## WASTE MANAGEMENT 40-09-03

#### **ACTIVITIES**

#### **Site Investigation and Restoration**

- Identify sites and prioritize using the Delaware Hazard Ranking Model.
- Oversee Remedial Investigation, Feasibility Study, Remedial Design and Remedial Action at HSCA sites
- Review applications of volunteers for acceptance into the Voluntary Cleanup Program (VCP).
- Provide oversight for the investigation, study, design and cleanup of VCP sites consistent with HSCA.
- Assist the volunteers in obtaining grants, loans and tax credits at brownfield sites so that such sites can be put to productive use.
- Promote field screening procedures to reduce the number of analytical samples sent to the laboratory for full analysis.
- Provide a Voluntary Cleanup option under the enforcement program to cut down the duration of negotiation of agreements.

#### **Underground Storage Tank**

- Identify unregistered Underground Storage Tanks (USTs).
- Identify the number of sites in compliance with financial responsibility, leak detection regulations and corrosion protection standards.
- Conduct UST facility, UST removal or abandonment, and new UST installation compliance inspections.
- Conduct new UST installation plan reviews.
- Identify unreported releases from USTs.
- Reduce the amount of time from identification to closure of Leaking Underground Storage Tanks (LUST) sites.

- Continue implementation of risk based corrective action closure procedures at LUST sites.
- Through enforcement, reach 100 percent compliance with the 98 deadline requirements for all regulated petroleum underground storage tanks.
- Continue permitting and enforcement of Stage II requirements in Sussex County.
- Continue implementation of an orphaned underground storage tank program.

#### **Solid and Hazardous Waste Management**

- Regulate the disposal of non-hazardous solid waste to prevent any significant adverse impacts to Delawareans or Delaware's environment.
- Monitor permitted solid waste sites to identify any contaminant releases to the environment. Require, oversee and approve corrective actions to remedy any significant adverse impacts resulting from contaminant releases.
- Pursue closure and remediation of unauthorized, illegal or environmentally unacceptable solid waste disposal sites.
- Develop Beneficial Use Determination Guidelines for Solid Waste by June 30, 2000. The guidelines will facilitate recycling of solid waste and industrial solid wastes to protect human health and the environment.
- Implement, as appropriate, the recommendations of the Citizens' Work Group on Recycling.
- Track the transport and disposal of solid waste to ensure compliance with environmental regulations.
- Communicate and encourage targeted hazardous waste generators on the reduction of hazardous waste
- Complete hazardous waste compliance assessments and permitting while implementing a multi-media approach where possible.
- Implement the hazardous waste corrective action process.
- Provide educational opportunities to the hazardous waste facility universe and public.
- Work with the Division of Water Resources on best management practices for salvage yards.
- Implement recommendations of the Citizens' Work Group on Recycling.
- Continue implementation of solid and hazardous waste compliance and enforcement strategy.
- Continue implementation of strategies to reduce PBT chemicals.

	FY 1999	FY 2000	FY 2001
	Actual*	Budget	Gov. Rec.
Increase % of leaking			
underground storage tank	Goal		
sites that do not impact	exceeded		
ground water/drinking water	at 92	81	82
Increase % of facilities in			
compliance with technical			
standards	79	70	75
Hazardous waste			
Generation(tons)	15,987	19,881	18,887
% of facilities assessed			
returning to compliance			
within 180 days	99	100	100
% of facilities in compliance			
at time of first assessment	73	55	60
# of participants in			
educational opportunities	723	175	175
# of high priority sites			
remediated	5	6	8
Remediate 40% of high			
priority sites (on inventory as			
of Sept 1, 1995 - 120) by FY			
2001	7	6	6
# of sites available for			
productive use	10	8	8

<sup>\*</sup>Per Resource Conservation Recovery Information System on September 20, 1999.